

Post-Neonatal Infant Mortality: Medicaid WIC vs. Non-WIC Participants In Michigan

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Objectives

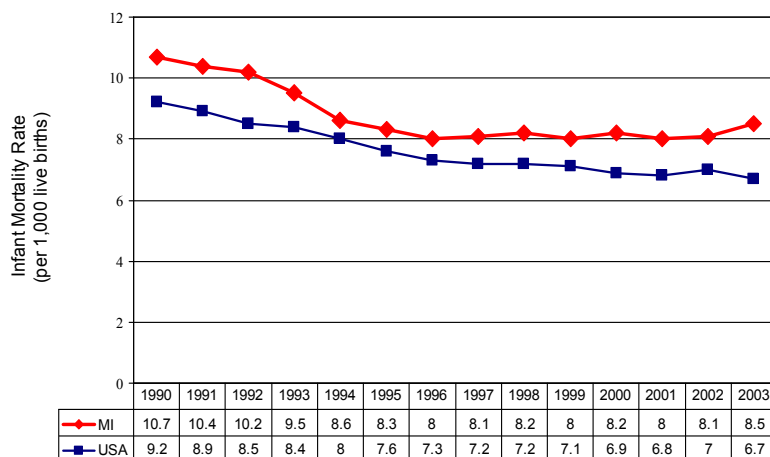
- Learn about infant mortality and post neonatal infant in Michigan.
- Understand the advantages of linking data from various programs.
- Determine the impact of WIC participation on post-neonatal mortality.



Background

- Infant mortality can be classified as neonatal and post-neonatal infant mortality
 - Post-neonatal mortality: the death of a live born infant that occurs between the 28th and the 365th day of life

Infant Mortality Rate Michigan compared to U.S.

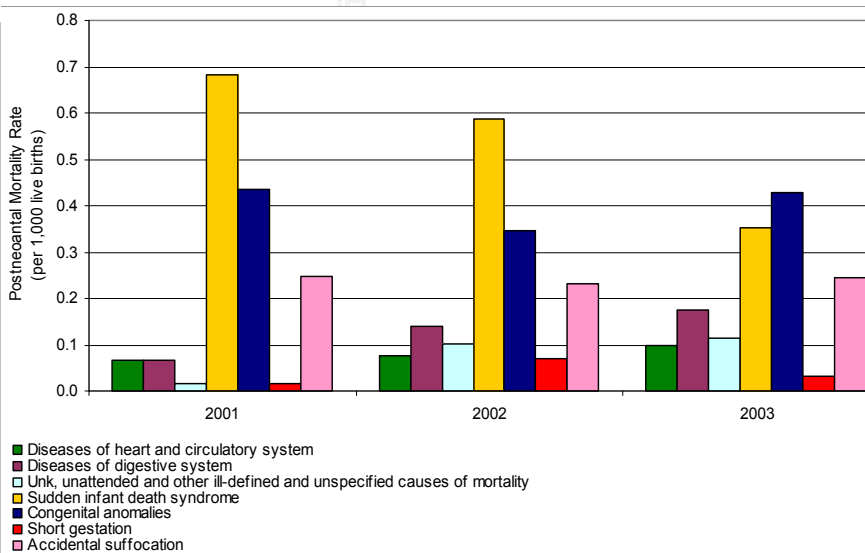


Background

Postneonates, all races, both sexes

Rank ¹	Cause of death (Based on the Tenth Revision, International Classification of Diseases, 1992), race and sex	Number	Percent of total deaths	Mortality rate
...	All causes	9,287	100.0	230.9
1	Sudden infant death syndrome (R95)	2,110	22.7	52.5
2	Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	1,647	17.7	41.0
3	Accidents (unintentional injuries) (V01-X59)	851	9.2	21.2
4	Diseases of the circulatory system (I00-I99)	432	4.7	10.7
5	Septicemia (A40-A41)	296	3.2	7.4
6	Chronic respiratory disease originating in the perinatal period (P27)	259	2.8	6.4
7	Assault (homicide) (*U01.X85-Y09)	253	2.7	6.3
8	Gastritis, duodenitis, and noninfective enteritis and colitis (K29,K50-K55)	231	2.5	5.7
9	Influenza and pneumonia (J10-J18)	230	2.5	5.7
10	Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	99	1.1	2.5

Postneonatal death causes



Study Question

Does infant participation in WIC influence the incidence of post-neonatal mortality among Medicaid participants?

What's WIC?

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is a federally-funded program that aims to improve the health outcome of low-income, nutritionally at-risk women and young children. It accomplishes this goal by:

- providing supplemental nutritious food;
- offering breastfeeding and nutritional counseling; and
- referring participants to additional health and social services.

WIC in Michigan

- Among the estimated 130,850 infants born in Michigan, 41.2% were WIC participants
- One third of children under the age of five in Michigan are WIC participants
- Also, over 60,000 pregnant and postpartum women participate in the program annually

How WIC may impact postneonatal infant mortality

- WIC does effect infant mortality in a variety of ways:
 - by improving weight gain during pregnancy,
 - by reducing the incidence of LBW and the VLBW
 - being a gateway to health and social service
 - being a source of health information
 - By reducing susceptibility to infection through improved nutritional health

Methods & Statistical Analysis

- Data source: Medicaid, WIC and vital records data in the Michigan Data Warehouse
- Medicaid participants born between 2000 and 2003 were identified and 'linked' to their birth records and if applicable their WIC records

Methods & Statistical Analysis

- Variables extracted for analysis include:
 - Maternal characteristics (age and race/ethnicity, marital status, and parity),
 - pregnancy-related characteristics (PNC utilization, plurality, inter-pregnancy interval, smoking and WIC participation during pregnancy), and
 - infant characteristics (sex, gestational age, birthweight, and WIC participation)

Methods & Statistical Analysis

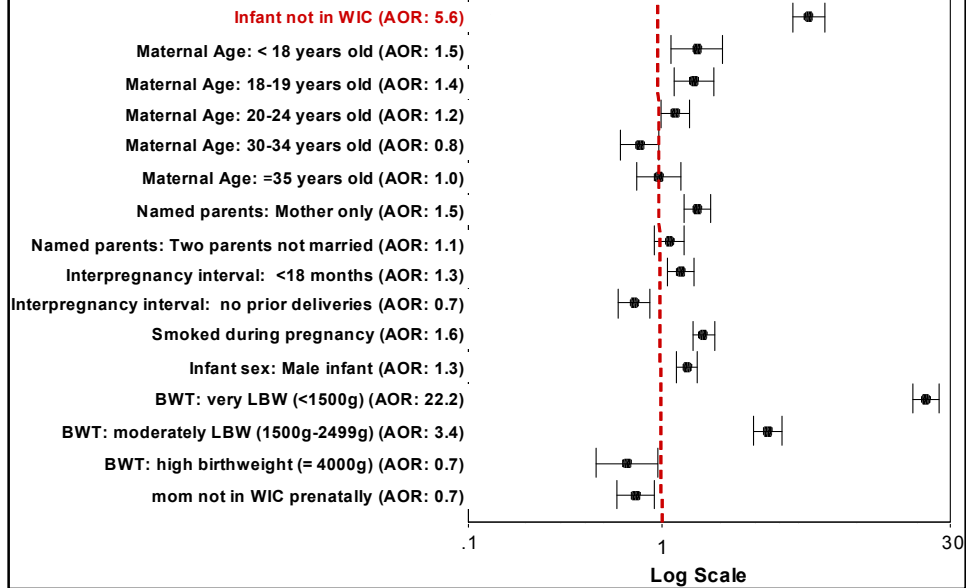
- SPSS was used to perform univariate and bivariate analysis to assess the relationship between WIC participation and postneonatal deaths
- Adjusted odds ratios were calculated by using logistic regression to determine the relationship of WIC participation and mortality while simultaneously controlling for various infant, maternal, and pregnancy-related characteristics

Methods & Statistical Analysis

- Variables included in the *initial* model:
 - Child's WIC status
 - Mother's Age (grouped)
 - Mother's Race/ethnicity
 - Adequacy of PNC utilization
 - Named Parents of Birth Certificate
 - Parity
 - Plurality
 - Interpregnancy Interval
 - Smoking During Pregnancy
 - Child's Gender
 - Length of Gestation
 - Birthweight (4 groups)
 - prenatal WIC participation
- Variables that made it to the *final* model:
 - Birthweight (4 groups)
 - Child's WIC status
 - Mother's Age (grouped)
 - Named Parents of Birth Certificate
 - Smoked During Pregnancy
 - Interpregnancy Interval
 - Child's Gender
 - Grouped Length of Gestation
 - prenatal WIC participation

No (additional) effects met the 0.05 significance level for entry into the model.

Results



Strengths & Limitations

Strengths

- Linking Medicaid, vital records, and WIC program data
- Use of WIC data

Limitations

- Underreporting of adverse health behaviors in BC (e.g. smoking)
- WIC selection bias
- Not generalizable

Conclusion

- Mortality in the postneonatal period is lower among Medicaid/WIC participants than among infants enrolled in Medicaid alone
- Understanding of the impact that each of WIC's three components has on improving adverse health outcomes is necessary to further improve the program effectiveness
- Differences between eligible persons who participate in the program and those who do not need identified and adjusted for in future studies.



Thank you!

Are there any questions?